THIRD FIVE YEAR REVIEW REPORT

SEYMOUR RECYCLING SUPERFUND SITE

Seymour
Jackson County, Indiana

PREPARED BY:

United States Environmental Protection Agency
Region 5
Chicago, Illinois

Approved by: Date:

3/20/07

for Richard C. Karl
Director
Superfund Division, Region 5

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Acronyms

Agencies	IDEM and U.S. EPA
ARARs	Applicable or Relevant and Appropriate Requirements
CFR	Code of Federal Regulations
ESD	Explanation of Significant Differences
FS	Feasibility Study
gpm	gallons per minute
IC	Institutional Control
IDEM	Indiana Department of Environmental Management
MCL	Maximum Contaminant Level
mg/kg	milligrams per kilogram
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
ppb	parts per billion
ppm	parts per million
PRP	Potentially Responsible Party
RA	Remedial Action
RD	Remedial Design
RI	Remedial Investigation
RI/FS	Remedial Investigation/ Feasibility Study
ROD	Record of Decision
Site	Seymour Recycling Superfund Site
THF	tetrahydrofuran
U.S. EPA	United States Environmental Protection Agency
UU/UE	Unrestricted Use/ Unlimited Exposure
µg/L	micrograms per Liter
VES	Vapor Extraction System
VOCs	Volatile Organic Compounds

Executive Summary

Completion of the current five year review confirms that the Seymour Recycling Superfund Site remains protective of human health and the environment, and there are no known exposure pathways that result in unacceptable health risks. The components of the remedies selected and updated in the 1986 Seymour Site Interim ROD, 1987 ROD and 2002 ESD have been implemented and remain effective under the 1988 Seymour Site RD/RA Consent Decree, Remedial Action Plan, and implemented Site Deed Restrictions. This is the third five year review for the Seymour Site.

The remedy is currently protective of human health and the environment because there is no evidence of a cap breach and the existing use of the Seymour Site property is consistent with the objectives of the landfill cap and industrial land use restrictions. The groundwater remedy is currently protective of human health because there is no evidence of groundwater use in the area of the plume. Long term protectiveness requires compliance with land and groundwater use restrictions that prohibit interference with the hazardous waste cap; prohibit residential, commercial use or any use that would allow the continued presence of human exposure, and restrict use of groundwater until groundwater cleanup standards are achieved throughout the plume area.

Long-term maintenance of the Site landfill hazardous waste cap completed in 1991 ensures containment of Site waste material. The VES began being cycled to operate intermittently as needed in 1998 and is now being pulsed on an annual basis, usually from September to November of each year. Site access and use is restricted with a security perimeter fence, and deed restrictions for both the Site property and adjacent surrounding property remain in place.

Shut down of the groundwater pump & treatment plant was approved by U.S. EPA and IDEM in 2001, after 12 years of operation. A five year review report of the groundwater monitoring network was completed in 2006, and found that the plume remained contained but needed two additional monitoring well locations to sample for 1,4-dioxane. The two additional monitoring wells are scheduled to be installed in 2007. Site deed restrictions, title work, and annual operation and maintenance plan reports will also be evaluated and updated, to assure consistency with Indiana Code IC 13-11-2-193.5 and 13-14-2-6.

Five Year Review Summary Form

SITE IDENTIFICATION		
Site name (from WasteLAN): Seymour Recycling Superfund Site		
EPA ID (from WasteLAN): EPA ID# IND040313017		
Region: 5	State: IN	City/County: Seymour, Jackson
SITE STATUS		
NPL status: _X_ Final __ Deleted __ Other (specify)		
Remediation status (choose all that apply): __ Under Construction X Operating _ Complete		
Multiple OUs? __YES X_NO	Construction completion date: 09/18/ 1993	
Has site been put into reuse? __ YES _X NO		
REVIEW STATUS		
Lead agency: _X EPA _ State _ Tribe _ Other Federal Agency		
Author name: Jeff Gore		
Author title: Remedial Project Manager	Author affiliation: U.S.EPA, Region 5	
Review period: _9_ / _21_ / _2006__ to March _2007__		
Date(s) of site inspection: _9_ / _27_ / __2006_		
Type of review: _X Post-SARA _ Pre-SARA _ NPL-Removal only _ Non-NPL Remedial Action Site _ NPL State/Tribe-lead _ Regional Discretion		
Review number: _ 1 (first) _ 2 (second) _X 3 (third) _ Other (specify) _____		
Triggering action: _ Actual RA Onsite Construction at OU #____ _ Actual RA Start at OU#_NA___ _ Construction Completion _X Previous Five-Year Review Report _ Other (specify)		
Triggering action date (from WasteLAN): _03_ / _29_ / _2002___		
Due date (five years after triggering action date): 03_ / _29_ / _2007___		

Issues:

- Deep aquifer well 224 near the landfill cap has recently shown increased levels of 1,4-dioxane, although other monitoring wells nearby continue to show low or non-detectable levels of the compound.

- Site deed restrictions, title work, and annual O&M plan reports need to be evaluated and updated, to assure consistency with Indiana Code IC 13-11-2-193.5 and 13-14-2-6. Also properly record any updated Site deed restrictions.

Recommendations and Follow-up Actions:

- Install two monitoring wells downgradient of MW 224 in 2007, to better assess the sampling results of well 224.

- IC Plan to evaluate and update Seymour Site deed restrictions, title work, and O&M plan reports, to assure consistency with Indiana Code IC 13-11-2-193.5 and 13-14-2-6. Also properly record any updated Site deed restrictions.

Protectiveness Statement:

Completion of the current five year review confirms that the Seymour Recycling Superfund Site remains protective of human health and the environment, and there are no known exposure pathways that result in unacceptable health risks. The components of the remedies selected and updated in the 1986 Seymour Site Interim ROD, 1987 ROD and 2002 ESD have been implemented and remain effective under the 1988 Seymour Site RD/RA Consent Decree, Remedial Action Plan, and implemented Site Deed Restrictions.

The remedy is currently protective of human health and the environment because there is no evidence of a cap breach and the existing use of the Seymour Site property is consistent with the objectives of the landfill cap and industrial land use restrictions. The groundwater remedy is currently protective of human health because there is no evidence of groundwater use in the area of the plume. Long term protectiveness requires compliance with land and groundwater use restrictions that prohibit interference with the hazardous waste cap; prohibit residential, commercial use or any use that would allow the continued presence of human exposure, and restrict use of groundwater until groundwater cleanup standards are achieved throughout the plume area.

Long-term maintenance of the Site landfill hazardous waste cap completed in 1991 ensures containment of Site waste material. The VES began being cycled to operate intermittently as needed in 1998 and is now being pulsed on an annual basis, usually from September to November of each year. Site access and use is restricted with a security perimeter fence, and deed restrictions for both the Site property and adjacent surrounding property remain in place.

Shut down of the groundwater pump & treatment plant was approved by U.S. EPA and IDEM in 2001, after 12 years of operation. A five year review report of the groundwater monitoring network was completed in 2006, and found that the plume remained contained but needed two additional monitoring well locations to sample for 1,4-dioxane. The two additional monitoring wells are scheduled to be installed in 2007. Site deed restrictions, title work, and annual operation and maintenance plan reports will also be evaluated and updated, to assure consistency with Indiana Code IC 13-11-2-193.5 and 13-14-2-6.

1.0 INTRODUCTION

The United States Environmental Protection Agency (U.S. EPA) Region 5 has conducted a five-year review of the remedial actions implemented at the Seymour Recycling Superfund Site in Seymour, Indiana. The review was conducted between September 2006 and March 2007. This report documents the results of the five-year review. The purpose of five-year reviews is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of the review are documented in the five-year review reports. In addition, five-year review reports identify issues found during the review, if any, and make recommendations to address them.

This review is required by statute. U.S. EPA must implement five-year reviews consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA 121(c), as amended, states:

> If a remedial action is selected that results in any hazardous substances, pollutants, or contaminants remaining at the site, the remedial action shall be reviewed no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

The NCP part 300.430(f)(4)(ii) of the Code of Federal Regulations (CFR) states:

> If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

This is the third five-year review for the Seymour Site. The first five-year review report was completed and signed in March 1997, and the second report was signed in March 2002. Due to the fact that hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure, this five-year review is required.

2.0 SITE CHRONOLOGY

Table 1. Chronology of Site Events	
Date	**Event**
1978	Initial discovery of waste management problems at the Site by the State of Indiana.
1980	Seymour Site placed under receivership by State of Indiana court.
1981	U.S. EPA proposes Seymour Site for NPL.
1982	Surface cleanup removal action started.
1983	NPL final listing for the Site.
1984	Surface cleanup removal completed.
1985	Municipal water supply extension to 100 homes near the Site.
1986	Interim ROD signed.
1987	Final ROD signed.
1988	RD/RA Consent Decree.
1991	Final RA start
1993	Site remedy construction completion report.
1997	First five year review.
1998	Vapor extraction system cycling begins.
1999	Site Landfill cap repaired.
2001	Groundwater treatment plant shut-down with contingency plan.
2002	Second five-year review.
2002	Explanation of Significant Differences (ESD) signed.
2006	Site monitoring program data review.

3.0 BACKGROUND

3.1 Physical Characteristics

The Seymour Superfund Site covers approximately 14 acres and is located two miles southwest of Seymour, Indiana, near the northwest corner of Freeman Municipal Airport and Industrial Park. (See Site location map). The Site is located on a nearly level plain with surface drainage toward the East Fork of the White River, which is approximately 1 ½ miles to the northwest.

3.2 Land and Resource Use

Most of the land near the Site is used for agriculture. About 100 homes are located within a one-mile radius of the Site, most of which are in the Snyde Acres subdivision to the north. The Freeman Municipal Airport and Industrial Park contains a number of industrial buildings to the southwest of the Seymour Site.

3.3 History of Contamination

From 1970 to early 1980, the Seymour Recycling Corporation (SRC) processed, stored and incinerated chemical wastes at the Site. Hazardous and toxic wastes including solvents and metal finishing wastes accumulated on the site property over the years, stored in 55-gallon drums, bulk tanks, and other containers. These wastes leaked and spilled from their containers creating fire and odor problems.

The Site was closed when SRC failed to follow a 1978 agreement with the State of Indiana to cease receiving wastes and institute better waste management practices. In 1980, a State of Indiana court placed the Site under receivership.

3.4 Initial Response

In late 1980 and 1981 the U.S. Environmental Protection Agency (U.S. EPA) fenced the Site to restrict access, constructed dikes to control Site runoff, installed an on-site carbon unit to treat surface water, and sampled the contents of drums, tanks, and soil. In 1982, U.S. EPA entered into an agreement with a small group of complying potentially responsible parties to handle the "surface cleanup", or the cleanup of hazardous substances or contaminants considered to be of greatest risk to the public. Under this agreement, these PRPs were free from future liability at the Site, after paying for and completing this cleanup.

The "surface cleanup" was conducted from December 1982 to January 1984. The cleanup involved removing all stored surface wastes--roughly 50,000 drums and 100 storage tanks--and taking them to off-site hazardous disposal facilities. In addition, the top foot of contaminated soil was removed from about 75 percent of the Site area and transported to disposal sites. These soils contained high levels of numerous organic contaminants. Clean fill and clay was brought in to replace the removed soil, creating a protective cover.

Agreements in 1982 and 1983 with additional PRPs established a fund which allowed for the 1985 extension of Seymour's municipal water system to the nearby Snyde Acres subdivision which contained about 100 homes, and to a nearby farm.

3.5 Basis for Taking Action

Remedial planning began as the Seymour Site was proposed for the National Priorities List on October 22, 1981. The Site became a final NPL listing on September 9, 1983.

A remedial investigation was carried out from August 1983 to May 1986. The major results of the Seymour Site RI found:

- A shallow and deep aquifer existed with a confining layer between them. The confining layer narrowed and disappeared moving to the north and northwest direction. In some areas around the Site, groundwater in the shallow aquifer could be found less than 10 feet below the surface. Groundwater in the shallow aquifer flowed to the north/northwest.

- The deep aquifer, located from about 55 to 70 feet below the surface, flowed primarily to the south. The area immediately to the south of the Site contained no wells or streams which could provide an exposure pathway for site chemicals in the deep aquifer to contact humans or wildlife. However, there were deep wells located at Freeman Municipal Airport to the east of the Site.

- The shallow aquifer was highly contaminated with more than 35 different hazardous organic chemicals, including 1,2-dichloroethane, benzene, vinyl chloride and 1,1,1-trichloroethane. As of June 1985, the major portion of the contaminant plume extended 400 feet beyond the Site boundary. However, studies detected lower concentrations of organic chemicals as far as 1,100 feet downgradient of the Site boundary.

- Soil beneath the surface of the 14 acre site was heavily contaminated with the hazardous chemicals found on Site. Topsoil in the nearby northwest drainage ditch was also contaminated but at much lower concentrations.

- Exposure to chemicals from the Site through air was unlikely in the short term unless the protective clay soil cover placed on the Site during the 1982-84 surface cleanup was disturbed.

U.S. EPA and the Indiana Department of Environmental Management (IDEM) prepared a Record of Decision (ROD) in September of 1986 that outlined an interim groundwater pump and treatment system for the Seymour Site. A second ROD was signed in September of 1987 which outlined the elements of a comprehensive cleanup at the Seymour Site. In December of 1988, U.S. EPA, IDEM, the City of Seymour and approximately 150 PRPs signed a Consent Decree for the Seymour Site remedial design/remedial action cleanup.

4.0 REMEDIAL ACTIONS

4.1 Remedy Selection

The four basic components of the Seymour Site remedy involved design, construction and implementation of the following:

- Groundwater pump and treatment system with long-term monitoring.
- Vapor extraction system with long-term monitoring.
- Multi-media landfill cap with on-site contamination, buildings and debris buried beneath the cap.
- Bioremediation of landfill source area by land-farming nutrients into the soil.

Remedial action objectives for the groundwater remedy are to reduce and eliminate excess groundwater contamination beyond the Site boundary. Remedial action objectives for the source area remedy are to consolidate, reduce and contain soil contamination beneath the multi-media landfill cap. Other elements of the Seymour Site remedy included the sealing of private groundwater wells in the nearby Snyde Acres residential area, restriction of access to and use of the Site with a security perimeter fence, and restriction of use of contaminated groundwater over the extent of the Site plume.

Institutional Controls: The ROD requires "deed restrictions" to prohibit excavation of soil, building construction on site and groundwater extraction and to prevent interference with the remedy. For off-site areas, the ROD states that "offsite groundwater withdrawal restrictions would be necessary to prevent any adverse impacts to the proposed extraction well system. Use of the adjacent land would have to be limited in order to prevent a public health threat during operation of the vapor extraction system."

4.2 Remedy Implementation

Groundwater Response Action

Implementation of the response action for groundwater restoration at the Seymour Site involved the following components. Design and construction of an interim groundwater pump and treatment system began in 1987 and was completed in 1989. A final pump and treatment system was completed in February of 1991.

The groundwater contamination at the Seymour Site consisted of a variety of chemicals, but the plume itself was defined by the constituent 1-4 dioxane, which extended as far as 3/4 mile northwest from the Site boundary. Tetrahydrofuran extended about 1/4 of a mile, and chloroethane, vinyl chloride and benzene a few hundred feet from the Site. This information was discovered through additional groundwater sampling and placement of monitoring wells during the remedial design of the project.

Two extraction wells were constructed about 300 and 1000 feet from the northern Site boundary. Historically, the combined pumping rate of the two extraction wells was 140 gallons per minute, but in order to maximize efficiency the system has been adjusted as necessary by the plant operator.

Water from the two extraction wells runs through the Site's pre-treatment plant. The plant process involves an iron reaction and settling system, air stripping, and additional filtering which includes activated carbon. The processed groundwater is then pumped to the City of Seymour's wastewater treatment works plant.

Source Area Response Action

Implementation of the Site source area response action involved a number of components. Remedial action activities consisting of the excavation of contaminated topsoil from the northwest ditch near the Site boundary, construction of the vapor extraction system (VES) and multi-layer cap, and bioremediation of soils began in September of 1989 and were completed in May of 1991. The vapor extraction system at the Seymour Site is unique in that the laterals in the system run horizontal instead of vertical. The vapor extraction system itself lies underneath the length of the multi-layer site cap. The laterals are connected to headers at the north and south end of the cap. A vacuum pump system connected to the north header draws air from vertical inlets on the south side header, and volatile laden air from the contaminated area flows through the system to an exhaust.

A multi-layer cap was built in order to cover site and excavated contamination, building debris, and drummed drill-cuttings. The cap also provides a barrier for future surface-water run-on, which in turn reduces underground leaching. The cap's seven layers consist of the following materials: the layer at the surface is a two foot thick seeded soil layer; the second layer is a geotextile filter fabric; the third layer is for drainage, consisting of 12 inches of sand; the fourth layer consists of a high density polyethylene liner; the fifth layer consists of four successive 6-inch-thick compacted clay/till layers; the sixth layer is another geotextile filter; and the final layer just above the contaminated soil consists of compacted clean fill.

Bioremediation was utilized before the multi-layer cap was constructed at the Seymour Site in 1990 and 1991. A solution of nitrogen, phosphorous, potassium and sulfur was added to the soil to help break down the contaminants biologically. The nutrients were land-farmed using a tractor, plow and storage tank, injecting the mixture 12 to 24 inches below grade in the soils. Since the multi-layer cap was constructed over the source area, the bioremediation is not monitored over time as part of the soil sampling activities.

4.3 System Operations/Operation and Maintenance (O&M)

Groundwater Response Operations

The interim groundwater pump and treatment system for the Seymour Site began operating in 1989, and the final system began operating in 1991. The final pump and treatment system included extraction wells about 300 and 1000 feet from the northern Site boundary. Over

time, the extraction wells flow rates tended to decrease due to clogging in the well screens and aquifer formations. As a result, the extraction well 1000 feet from the northern Site boundary was replaced in 1993 and located near the original extraction well location. A third extraction well was added in 1995 and placed approximately 400 feet from the Site boundary. In 2001, the three groundwater extraction wells typically produced a flow rate of approximately 100 gallons per minute through the Site groundwater pre-treatment plant.

Hydrogen peroxide and hydrochloric acid pre-treatment plant processes were added in 1995 to control iron precipitation and biomass buildup in the Site pre-treatment plant air stripper and other plant components. These additions improved the efficiency of the pre-treatment plant as well as reduced the amount of plant maintenance required.

A document proposing the shut down of the groundwater pump & treatment plant was approved by U.S. EPA and IDEM in January 2001, as outlined in the 2002 Site ESD. The document approval was based on the reasoning that the groundwater extraction system was no longer efficient in removing the lower levels of groundwater contaminants still above clean-up standards, and no longer efficient in containing the plume after 12 years of pump and treatment. The approval for shutdown required increased groundwater monitoring, and a contingency to re-start the groundwater treatment system if the groundwater plume expanded from its position at system shutdown. The groundwater extraction system shutdown was completed between October and December 2001. The plant re-start contingency requires a review of the groundwater monitoring system every five years until the groundwater clean-up standards outlined in the ROD are met.

A review of the groundwater monitoring system in 2006 found that the lateral extent of the plume of volatile organic compounds (VOCs) continues to remain stable. Total VOC concentrations toward the end of the plume continue to decrease, while certain VOC compounds concentrations are increasing underneath the landfill cap. The areal extent of tetrahydrofuran (THF) contamination in the shallow aquifer continues to slowly recede toward the Site boundary. The overall extent and concentration distribution of 1,4-dioxane in the shallow aquifer has not changed significantly since 2001. 1,4-dioxane concentrations in the deep aquifer well 224 near the landfill cap exhibited a significant increase in recent years, although low or non-detectable levels have been found in other monitoring wells.

Source Area Response Operations

The vapor extraction system operated continuously, except for maintenance, until the beginning of 1998. The flow rate through the system has ranged from less than 10 cubic feet per minute (cfm) to up to 100 cfm, depending on factors such as groundwater level. The VES removed most of the contaminant mass during the first year of operation with over 20,000 pounds of volatile organic compounds being vented. The system began reaching asymptotic levels after approximately 34,000 pounds of VOCs were removed.

The vapor extraction system began being cycled to operate intermittently as needed in 1998. The system began to be turned off for up to a year to allow volatile compounds to build up or

be removed naturally. The VES is now being pulsed on an annual basis, usually from September to November of each year.

A major repair of the Site multilayer cap took place in 1999 to repair erosion and improve drainage. A cutoff trench was installed around the perimeter of the surface and directed to drainage trenches. In addition, modifications were made to the Site fencing to reduce entry of burrowing animals onto the cap area.

A hole causing a leak was discovered in the knockout tank upstream of the vent blower on the VES, during the sixth week of the VES pulsing in 2005. The hole enabled ambient air to mix with the gases being extracted by the VES, resulting in dilution of VOC concentrations being emitted from the system. The hole was subsequently repaired and the VES functioned normally during the 2006 pulsing.

Current annual O&M costs at the Seymour Site are primarily attributable to operation, maintenance and management of the Site landfill, VES, and groundwater monitoring systems. Site estimated annual costs are approximately $200,000 for the last several years.

4.4 Institutional Controls

The 1987 Seymour ROD included measures implementing deed & access restrictions and other institutional controls to prevent future development of the Site and adjacent property, which assure the integrity of the remedial action. The deed and access restrictions were attached to the 1988 RD/RA Consent Decree. A full review of the Seymour Site ICs was completed by the Seymour Site Trust representatives, as agreed to in the October 18, 2006 Notification of Agreement to Perform Institutional Controls Study. The IC analysis memo dated January 8, 2007 reviewed the implementation, maintenance and monitoring of the Seymour ICs, and found the Site ICs to be protective, effective and in good standing with the integrity of the remedy. The January 8, 2007 IC Analysis memo was reviewed by the U.S.EPA Seymour Site Attorney, and is part of the Seymour Site Administrative Record.

The Site is fenced and the gate is locked. The gate is checked as part of the Site operator's daily duties, and the fence is subject to regular inspections. Deed restrictions for both the Site property and adjacent surrounding property have been put in place. The deed restriction for the Site prevents development and use of land within the Site boundary, preventing use of groundwater underlying the Site, and assures the integrity of the landfill and other components of the remedial action. The deed restriction for the area adjacent to the Site prevents groundwater use and restricts any land use that interferes with the remedial action (See Site figures). An annual report updating the status of the Seymour ICs will be included with the other operation and maintenance reporting for the Site. The report will include compliance information regarding the implemented Site Deed Restrictions.

Institutional controls (ICs) are non-engineered instruments, such as administrative and legal controls that help to minimize the potential for exposure to contamination and that protect the integrity of the remedy. ICs are required to assure the long-term protectiveness for any areas which do not allow for unlimited use or unrestricted exposure (UU/UE). ICs are also required to maintain the integrity of the remedy. These areas are listed below:

Table 2. Institutional Controls Summary Table		
Media, Engineered Controls & Areas that Do Not Support UU/UE on Current Conditions	**IC Objective**	**IC Instrument Implemented**
Site boundary/ Site area: On site soil contamination—multi-media landfill cap & soil vapor extraction on former Seymour Recycling Company facility. Property owned by the City of Seymour, IN (~14 acres).	Prohibits use of land, groundwater underlying Site, and assures integrity of landfill, VES & other RA components.	Deed Restriction attachment to RD/RA CD. Owner's Declaration of Restrictions on Current & Future Uses (implemented). PRPs, USEPA & IDEM will examine ways to benefit from state statutes Indiana Code 13-14-2-6 and 13-11-2-193.5, regarding long term effectiveness.
Site boundary/ Site area: Groundwater that exceeds groundwater cleanup standards on property used by Seymour Recycling Co. & owned by the City of Seymour, IN (~14 acres).	Prohibits use of land, groundwater underlying Site, and assures integrity of landfill, VES & other RA components.	Deed Restriction attachment to RD/RA CD. Owner's Declaration of Restrictions on Current & Future Uses (implemented). PRPs, USEPA & IDEM will examine ways to benefit from state statutes Indiana Code 13-14-2-6 and 13-11-2-193.5.
Adjacent to Site/ Groundwater & Real Estate Use: Groundwater that is within the remedial action property surrounding the Site, property also owned by the City of Seymour, IN.	Prohibits use of groundwater until RA completion, and restricts land use to assure remedy integrity.	Deed Restriction attachment to RD/RA CD. Owner's Declaration of Restrictions on Current & Future Uses (implemented). PRPs, USEPA & IDEM will examine ways to benefit from state statutes Indiana Code 13-14-2-6 and 13-11-2-193.5.

The Site boundary map figures attached to this document outline the Site land boundary and groundwater use restriction boundary for the Seymour Site. The maps also show the groundwater plume contamination areas for VOCs, 1,4- dioxane in the shallow aquifer, and 1,4- dioxane in the deep aquifer, which remain protective regarding risk levels and within the groundwater use restriction boundary area. These maps depict and describe the areas where use restrictions are appropriate until the Site remedy performance standards are met.

Site Area soil and groundwater contamination: The landfill cap was completed in 1991 and covers most of the approximately 14 acre Site. The groundwater is not anticipated to reach cleanup standards for many years. The landfill cap is required to remain intact in perpetuity. The area including the Site boundary reflects the area which is covered by a Declaration of Deed Restrictions (RD/RA CD Exhibit 7). The Declaration of Deed Restrictions was recorded in accordance with the RD/RA Consent Decree for the Site. The Declaration states that there shall be no use of the groundwater, no residential or commercial use of the Site, no use of the Site that allows for the continued presence of humans, no installation or construction of structures, wells or pipes unless approved by U.S. EPA.

Compliance with these restrictions is necessary for the remedy to remain protective of human health and the environment. (Refer to Site figures.)

IC Plan: The Owners recorded a declaration imposing restrictions on the uses of the Site in accordance with the 1988 Consent Decree for Remedial Design and Remedial Action. The recorded declaration states that it runs with the land. U.S. EPA is requesting that the PRPs obtain a current title search or commitment to confirm that there are not any recorded encumbrances that may allow potential uses of the site that would be inconsistent with the currently recorded restrictions. In addition, U.S. EPA will be working with the PRPs to implement an approach to either have the existing declaration of restrictions benefit from the Indiana environmental restrictive covenant statute which provides for IDEM to enforce defined restrictive covenants or implement a new restrictive covenant pursuant to Indiana Code IC §13-11-2-193.5 and 13-14-2-6.

Adjacent to Site Groundwater and Use Restrictions: The groundwater downgradient of the Site is not anticipated to reach cleanup standards for many years. The ROD states that groundwater use restrictions are necessary to prohibit use of the groundwater that may interfere with the remedy. According to inspections made by U.S. EPA and IDEM and discussions with the City of Seymour, there are no current production wells in the plume area. The ROD also states that the use of the surrounding land would be limited due to a potential public health threat during operation of the vapor extraction system. The Declaration of Deed Restrictions that has been recorded for the area surrounding and adjacent to the Site prohibits use of the property that may cause exposure to contaminated groundwater that may present a health risk, prohibits interference with the remedy and prohibits residential or commercial use that would allow the continued presence of humans, but specifically allows agricultural crop growing and land application of sludges from the City of Seymour, IN publicly owned treatment works. The area in Exhibit 8, an attachment to the RD/RA CD, reflects the area which is covered by a Declaration of Deed Restrictions. According to inspections made by U.S. EPA and IDEM, the uses of the area surrounding and adjacent to the Site, are consistent with these restrictions. (Refer to Site figures.)

IC Plan: The Owners recorded an additional declaration imposing these restrictions on the uses of the area surrounding and adjacent to the 14 acre Site in 1988 in accordance with the 1988 Consent Decree for Remedial Design and Remedial Action. The recorded declaration states that it runs with the land. U.S. EPA is requesting that the PRPs obtain a current title search or commitment to confirm that there are not any recorded encumbrances that may allow potential uses of the site that would be inconsistent with the current site restrictions. In addition, U.S. EPA will be working with the PRPs to implement an approach to either have the existing declaration of restrictions benefit from the Indiana Environmental Restrictive Covenant Statute which provides for IDEM to enforce defined restrictive covenants or implement a new restrictive covenant pursuant to Indiana Code IC §13-11-2-193.5 and 13-14-2-6.

5.0 PROGRESS SINCE LAST FIVE YEAR REVIEW

This is the third five year review for the Seymour Site. The second five-year review was completed and signed in March 2002. Recommendations during the 2002 review included the following:

- The VES cycling should be analyzed and adjusted if needed to maximize the contaminant removal efficiency of the system.

- A volatile spike occurred in the VES in 1999 after years at asymptotic levels.

- The additional quarterly and semiannual groundwater data related to the shutdown of the groundwater treatment system should be discussed after being reported, to assure that the groundwater remedy remains protective. This will also improve communication before the five-year contingency review is required.

- An explanation of significant differences document should be prepared, finalized and placed in the Seymour Site file to detail the groundwater treatment plant shutdown.

The VES continues to be pulsed on an annual basis, usually from September to November of each year. To date approximately 36,000 lbs of VOC mass has been extracted from the vapor extraction system since startup. Soil gas sampling data indicates that rapid biodegradation of Chlorinated VOCs is occurring beneath the cap. No other volatile spikes have occurred in the VES since the 1999 event.

A review report of the groundwater system sampling data in 2006 found that the five year monitoring program demonstrated that the Site remediation processes are controlling VOC plume migration, with the areal extent remaining stable since 2001, when the groundwater treatment plant was shut-down. The groundwater plume remains contained within the deed restricted area required for the Seymour Site. Deep aquifer well 224 near the landfill cap has recently shown increased levels of 1,4-dioxane, although other monitoring wells nearby continue to show low or non-detectable levels of the compound. Additional monitoring wells downgradient of well 224 are being recommended for installation in 2007, to better assess the sampling results of well 224.

An explanation of significant differences (ESD) was completed and signed on December 24, 2002 to document the shutdown of the groundwater pump and treatment system for the Seymour Site. Two public availability sessions were held on October 8, 2002 regarding the treatment system shutdown. A lunchtime session was held for the business and political leaders in the Seymour community. A second session from 4:00 to 6:30 pm was held for community residents, and local newspaper and radio representatives.

6.0 FIVE YEAR REVIEW PROCESS

6.1 Administrative Components

The Seymour Site five year review was prepared by Jeff Gore, U.S. EPA Remedial Project Manager for the Site. Prabhakar Kasarabada, State Project Manager with the Indiana Department of Environmental Management (IDEM) also assisted in the review. The five year review consisted of a Site inspection and review of relevant documents. The completed report will be available in the Site information repository for public view.

6.2 Community Notification and Involvement

The completed third five year review report and background data will be available in the Site information repository, and the U.S. EPA website for public view. An advertisement notice regarding the five year review process was placed in the Seymour Tribune newspaper for public review on January 20, 2007, and is included as an attachment to this report. No public comments regarding the five year review have been received.

Community relations ongoing at the Site include reporting on the comprehensive operation and maintenance sampling program currently being carried out, to assure that human health and the environment are protected. Local residents who provide access for O & M sampling ask about the Site progress at that time. Two public availability sessions were held for the Seymour Site on October 8, 2002 regarding the groundwater treatment system shutdown.

6.3 Document Review

Seymour Site documents reviewed in preparation of this five year review report include the following:

- Explanation of Significant Differences, December 2002
- Second Five Year Review Report, March 2002
- First Five year Review Report, March, 1997
- RD/RA Consent Decree, December 1988
- Second Record of Decision, September 1987
- Interim Record of Decision, September 1986
- Seymour Site file and operations & maintenance documents
- Institutional Controls Analysis, January 8, 2007

6.4 Data Review

The operation and maintenance monitoring program initiated at the Seymour Site provides information on potential contaminant concentrations in groundwater, soil and air, in order to be within acceptable human health and environmental standards. Operation of an interim Site groundwater pump and treatment system began in 1989. A final pump and treatment system was completed in February of 1991. This groundwater treatment system was shut down in 2001 and the groundwater monitoring was expanded for natural attenuation, as outlined in the 2002 Seymour Site ESD. The vapor extraction system operated continuously beginning in 1991, except for maintenance, until the beginning of 1998. The VES began being cycled to operate intermittently as needed in 1998. The system began to be turned off for up to a year to allow volatile compounds to build up or be removed naturally. The VES is now being pulsed on an annual basis, usually from September to November of each year. Long-term maintenance of the landfill cap completed in 1991 is required to ensure that the remedy remains effective, and ensures containment of Site waste material.

A five year review report of the groundwater monitoring network was conducted in 2006, since the groundwater treatment system shutdown in 2001. The review report found that the lateral extent of the plume of volatile organic compounds (VOCs) continues to remain stable. Total VOC concentrations toward the end of the plume continue to decrease, while certain VOC compounds concentrations are increasing underneath the landfill cap. The areal extent of tetrahydrofuran (THF) in the shallow aquifer continues to slowly recede toward the Site boundary. The overall extent and concentration distribution of 1,4-dioxane in the shallow aquifer has not changed significantly since 2001. 1,4-dioxane concentrations in the deep aquifer well 224 near the landfill cap exhibited a significant increase in recent years, although low or non-detectable levels have been found in nearby monitoring wells. Additional monitoring wells downgradient of well 224 are being recommended for installation in 2007, to better assess the recent sampling results concerning 1.4-dioxane at deep well 224.

The vapor extraction system is currently being sampled annually during the VES pulsing, usually from September to November each year. Although VOCs continue to be removed each year, the levels recently have decreased to the range of approximately 100 lbs during each yearly pulsing event. To date approximately 36,000 lbs of VOC mass has been extracted from the vapor extraction system since startup. Soil gas sampling data indicates that biodegradation of Chlorinated VOCs continues to occur beneath the cap.

Landfill cap maintenance involves inspection and repair of any soil burrowing or erosion locations, and mowing of the landfill surface as needed. No major cap maintenance has been needed since the repair of the Site landfill cap took place in 1999 to control erosion and improve drainage.

6.5 Site Inspection

The Seymour Site has been visited periodically by the current remedial project manager since the last five year review. The most recent visit was performed from September 26-28, 2006,

in order to inspect the Site on September 27 for this five year review, and meet during oversight of the ongoing sampling activities. Jeff Gore of U.S. EPA and Prabhakar Kasarabada of IDEM performed the Site inspection; and Jim Kilby, Joe Moser and contractor personnel of the Seymour private party group were also present during the sampling activities to meet with the agency staff. The five year review site inspection checklist was used as a guideline for the Seymour Site inspection, and is placed in the Site file and administrative record.

A walk was taken around the surface of the landfill as well as areas along the Site fence line, and a vehicle was used to drive to the various groundwater monitoring locations for the Site. Site access is available through a locked gate which encloses the Site landfill and the treatment building.

The Site landfill was found to be in good condition during the inspection with minimal brush debris located on the cap, and the recently mowed prairie grass providing the top cover. There were no signs of excessive erosion along the landfill cap, although some slight wear was noticeable on the south side of the cap. The Site showed no signs of any vandalism or other disturbances. The access fence was properly in place, and the repairs to the VES knockout tank upstream of the vent blower were in place. The shutdown groundwater treatment system building was clean and free of debris. All of the monitoring well locations had been painted in May and June of 2006, and three new indicator poles were put up in locations where farming took place. Two monitoring well nest locations, MW 202 A&B and MW 203 A&B did not have labels on them.

The issues found during the five-year review inspection included:

- Monitoring wells MW 202 A&B and MW 203 A&B did not have labels on them.
- Additional monitoring wells downgradient of deep well 224 near the landfill cap are being recommended for installation in 2007, to better assess the 1,4-dioxane sampling results of well 224.

7.0 TECHNICAL ASSESSMENT

7.1 Question A: Is the remedy functioning as intended by the decision documents? Yes

RA Performance: The remedies selected and updated in the 1986 Interim ROD & 1987 ROD and 2002 ESD have been implemented and remain functional, operational and effective. With continued maintenance and monitoring of the Site hazardous waste cap and vapor extraction system inside the security perimeter fence, the source area remedies should contain any soil contamination and ensure that no excess human health risks develop. To date approximately 36,000 lbs of VOC mass has been extracted from the vapor extraction system since startup. The Site groundwater treatment system was shutdown in 2001 after 12 years of operation. A five year review of the groundwater monitoring network was conducted in 2006, and the review report found that the lateral extent of the plume of VOCs

continues to remain stable. Total VOC concentrations toward the end of the plume continue to decrease, while certain VOC degradation compounds concentrations are increasing underneath the landfill cap. The overall extent and concentration distribution of 1,4-dioxane in the shallow aquifer has not changed significantly since 2001. 1,4-dioxane concentrations in the deep aquifer well 224 near the landfill cap exhibited an increase in recent years, although low or non-detectable levels have been found in nearby monitoring wells. Additional monitoring wells downgradient of deep well 224 near the landfill cap are being recommended for installation in 2007, to better assess the 1,4-dioxane sampling results of well 224.

Cost of System Operations/O&M: Current annual O&M costs at the Seymour Site are primarily attributable to operation, maintenance and management of the Site landfill, VES, and groundwater monitoring systems. 2006 Site estimated annual costs are approximately $200,000.

Opportunities for Optimization: A proposal to shut down the groundwater pump & treatment plant was approved by U.S. EPA and IDEM in 2001. The approval was based on the reasoning that the groundwater extraction system was no longer efficient in removing the lower levels of groundwater contaminants still above clean-up standards, and no longer efficient in containing the plume after 12 years of pump and treatment. The approval for shutdown required increased groundwater monitoring, and a contingency to re-start the groundwater treatment system if the groundwater plume expanded from its position at system shutdown. The groundwater extraction system shutdown was documented in the 2002 Seymour Site ESD. The plant re-start contingency is to review the groundwater monitoring system regarding Site contamination every five years until the groundwater clean-up standards outlined in the ROD are met. A five year review of the groundwater monitoring network was conducted in 2006, and found that the plume remained contained but needed two additional monitoring well locations to sample for 1,4-dioxane.

Early Indicators of Potential Remedy Failure: No early indicators of potential remedy failure were noted during the review. Maintenance activities have been consistent with expectations, and groundwater monitoring is being modified to best assess the groundwater plume at the Site.

Implementation of Institutional Controls and Other Measures: The 1987 Seymour ROD included measures implementing deed & access restrictions and other institutional controls to prevent future development of the Site and adjacent property, and assures the integrity of the remedial action. Site access and use is restricted with a security perimeter fence. Deed restrictions for both the Site property and adjacent surrounding property have been put in place. The deed restriction for the Site prevents development and use of land within the Site boundary, preventing use of groundwater underlying the Site, and assures the integrity of the landfill and other components of the remedial action. The deed restriction for the area surrounding the Site prevents use of groundwater and restricts any land use that will interfere with the remedial action (See Site figures). These controls and restrictions are best efforts, and are to remain in place to prevent property access and groundwater use in relation to the remedial action.

Current Use Compatibility with Land and Groundwater Use Restriction: Any use that interferes with the landfill cap would not be protective of human health and the environment. According to inspections, there is no current use of the Site landfill, which has access restricted by a locked perimeter fence. Industrial uses on adjacent parcels are not anticipated to impact the Site landfill. The hazardous waste landfill cap must remain in place indefinitely to prevent exposure to underlying waste. The property is currently zoned for industrial use and is being used for commercial/industrial purposes.

7.2 Question B: Are the assumptions used at the time of remedy selection still valid? Yes

Changes in Standards and To Be Considered: Standards outlined and updated in the 1986 Interim ROD, 1987 ROD, 2002 ESD, and the 1997 & 2002 Five Year Review Reports are still valid at the Seymour Site. Site ICs remain effective under the 1988 Seymour Site RD/RA Consent Decree, Remedial Action Plan, and implemented Site IC Deed Restrictions.

Changes in Exposure Pathways: No changes in the Site conditions that affect exposure pathways were identified as part of the five year review. There are no current or known planned changes in the Site land use. The groundwater monitoring program is being modified to best assess the Site groundwater plume.

Changes in Risk Assessment Methodologies: Risk assessment methodologies used at the Seymour Site since the second five year review and ESD in 2002 have not changed, and do not call into question the protectiveness of the remedy.

7.3 Question C: Has any other information come to light that could call into question the protectiveness of the remedy? Yes

Technical Assessment Summary

According to the data reviewed and the Site inspection, the remedy, including implemented Site IC Deed Restrictions, is substantially functioning as intended by the 1986 Interim ROD, 1987 Final ROD, and 2002 ESD. There have been no changes in the physical conditions at the Site, standards, contaminant toxicity or exposure pathways that would affect the protectiveness of the remedy. There is no additional information has been identified that would call into question the protectiveness of the remedy.

8.0 ISSUES

The following issues were identified during the five-year review process and the Seymour Site inspection, and do not impact protectiveness of the remedy.

- Monitoring wells MW 202 A&B and MW 203 A&B did not have labels on them.

The following issues were identified during the five-year review process and the Seymour Site inspection, and impact protectiveness of the remedy.

- Deep aquifer well 224 near the landfill cap has recently shown increased levels of 1,4-dioxane, although other monitoring wells nearby continue to show low or non-detectable levels of the compound.

- Site deed restrictions, title work, and annual O&M plan reports need to be evaluated and updated, to assure consistency with Indiana Code IC 13-11-2-193.5 and 13-14-2-6. Also properly record any updated Site deed restrictions.

Table 3. Issues that Impact Protectiveness

Issue	Currently Affects Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
MW224 1,4- dioxane	N	Y
Update Site deed restrictions, title work, & O&M plans	N	Y

Y=yes; N=no

9.0 RECOMMENDATIONS AND FOLLOW-UP ACTIONS

- Put permanent labels on monitoring wells MW 202 A&B and MW 203 A&B.

Recommendations and follow-up actions for issues that were noted in Table 3:

- Install two monitoring wells downgradient of MW 224 in 2007, to better assess the sampling results of well 224.

- IC Plan to evaluate and update Seymour Site deed restrictions, title work, and O&M plan reports to assure consistency with Indiana Code IC 13-11-2-193.5 and 13-14-2-6. Also properly record any updated Site deed restrictions.

Table 4. Recommendations and Follow-up Actions

Issue	Recommendations/ Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness(Y/N)	
					Current	Future
MW224 1,4-dioxane	2 MWs installed in 2007	Seymour PRPs	USEPA, IDEM	September 2007	N	Y
Site deed restrictions, title work, & O&M plan reports	Update all & record deed restrictions, consistent with IC 13-11-2-193.5 & 13-14-2-6	Seymour PRPs , City of Seymour	USEPA, IDEM	October 2007	N	Y

Y=yes; N=no

10.0 PROTECTIVENESS STATEMENT(S)

Completion of the current five year review confirms that the Seymour Recycling Superfund Site remains protective of human health and the environment, and there are no known exposure pathways that result in unacceptable health risks. The components of the remedies selected and updated in the 1986 Seymour Site Interim ROD, 1987 ROD and 2002 ESD have been implemented and remain effective under the 1988 Seymour Site RD/RA Consent Decree, Remedial Action Plan, and implemented Site IC Deed Restrictions.

The remedy is currently protective of human health and the environment because there is no evidence of a cap breach and the existing use of the Seymour Site property is consistent with the objectives of the landfill cap and industrial land use restrictions. The groundwater remedy is currently protective of human health because there is no evidence of groundwater use in the area of the plume. Long term protectiveness requires compliance with land and groundwater use restrictions that prohibit interference with the hazardous waste cap; prohibit residential, commercial use or any use that would allow the continued presence of human exposure, and restrict use of groundwater until groundwater cleanup standards are achieved throughout the plume area.

Long-term maintenance of the Site landfill hazardous waste cap completed in 1991 ensures containment of Site waste material. The VES began being cycled to operate intermittently as needed in 1998 and is now being pulsed on an annual basis, usually from September to November of each year. Site access and use is restricted with a security perimeter fence, and deed restrictions for both the Site property and adjacent surrounding property remain in place.

Shut down of the groundwater pump & treatment plant was approved by U.S. EPA and IDEM in 2001, after 12 years of operation. A five year review report of the groundwater monitoring network was completed in 2006, and found that the plume remained contained but needed two additional monitoring well locations to sample for 1,4-dioxane. The two additional monitoring wells are scheduled to be installed in 2007. Site deed restrictions, title work, and annual operation and maintenance plan reports will also be evaluated and updated, to assure consistency with Indiana Code IC 13-11-2-193.5 and 13-14-2-6.

11.0 NEXT REVIEW

U.S. EPA performs statutory reviews on remedies selected that result in hazardous substances, pollutants or contaminants remaining at sites above levels that allow for unlimited use and unrestricted exposure. Since hazardous substances, pollutants or contaminants are contained and will potentially remain above U.S. EPA and State of Indiana regulatory standards in the future, the Seymour Site will require ongoing Five-Year Reviews. Therefore, another report is scheduled to be completed five years after the current five year review in 2012. The completion date of the current five year review is the signature date shown on the cover attached to the front of this report.

Institutional Control (IC) Review
Areas Depicting Required and Implemented Institutional Controls

Superfund
U.S. Environmental Protection Agency

Seymour Recycling Corporation
Jackson County, IN

IND040313017

Legend

- Seymour Recycling Corporation Boundary
- Land and Groundwater Use Restrictions (1988) - Required and Implemented IC*
- Real Estate Land Use Restrictions (1988) - Required and Implemented IC*

0 600 1,200 Feet

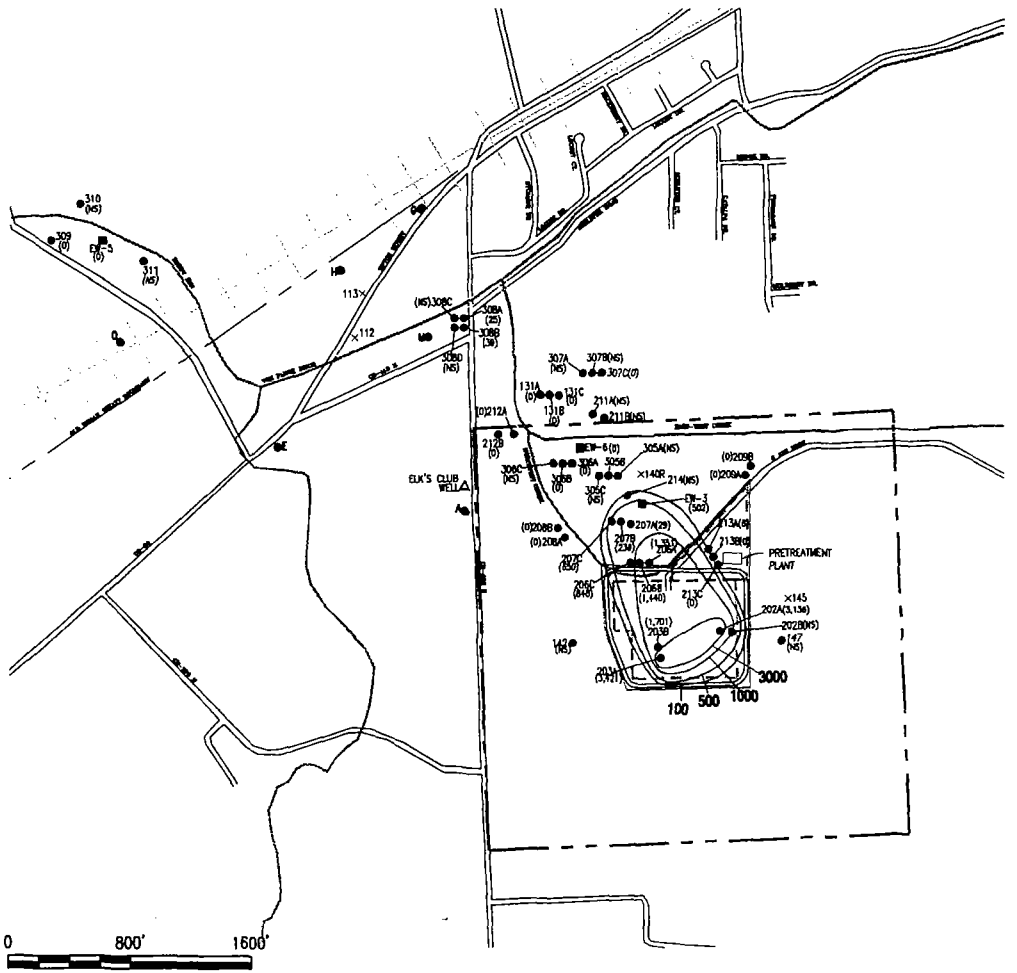
N

* See the Seymour Recycling Corporation Deed Restrictions (1988), Jackson County, IN for the restriction details

GEOS
Groundwater Evaluation and Optimization System

EPA Disclaimer: Please be advised that areas depicted in the map have been estimated. The map does not create any rights enforceable by any party. EPA may refine or change this data and map at any time.

Created by Sarah Backhouse
U.S. EPA Region 5 on 2/7/07
Image Date. 2005



LEGEND:

SITE BOUNDARY

DEED RESTRICTION THAT IMPOSES THE FOLLOWING CONDITIONS:

1. THERE SHALL BE NO CONSUMPTIVE OR OTHER USE OF THE GROUNDWATER UNDERLYING THE SEYMOUR SITE THAT COULD CAUSE EXPOSURE OF HUMANS OR ANIMALS TO THE GROUNDWATER UNDERLYING THE SEYMOUR SITE.
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SEYMOUR ACCESS ROAD

SURFACE WATER

RAILROAD TRACKS

207A (29) EXISTING SHALLOW AQUIFER MONITORING WELL AND CVOC CONCENTRATION IN ug/L

145 × ABANDONED WELL

EW-3 EXISTING SHALLOW AQUIFER EXTRACTION WELL (SHOWN FOR REFERENCE ONLY)

A SHALLOW AQUIFER PIEZOMETER (SHOWN FOR REFERENCE ONLY)

(ug/L) MICROGRAMS PER LITER

-100 LINE OF EQUAL CONCENTRATION OF CVOCs IN ug/L (DASHED WHERE INFERRED)

NOTES:

1. OFF-SITE A+B SHALLOW WELLS WERE REVIEWED BUT NOT EXCLUSIVELY RELIED ON FOR DETERMINING CVOC CONCENTRATION.
2. CVOCs INCLUDE:
   VINYL CHLORIDE CHLOROETHANE 1,1-DICHLOROETHENE
   1,1-DICHLOROETHANE 1,2-DICHLOROETHENE (TOTAL) 1,2-DICHLOROETHANE
   1,1,1-TRICHLOROETHANE CARBON TETRACHLORIDE TRICHLOROETHENE
   1,1,2-TRICHLOROETHANE TETRACHLOROETHENE 1,1,2,2-TETRACHLOROETHANE
   CIS-1,2-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD
0	12-1-09	CSI REMEDIATION TECHNICAL ASSESSMENT REPORT	MB

KEYPLAN

SEAL

ARCADIS

The Northgate Quadrangle
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Buffalo, NY 11747
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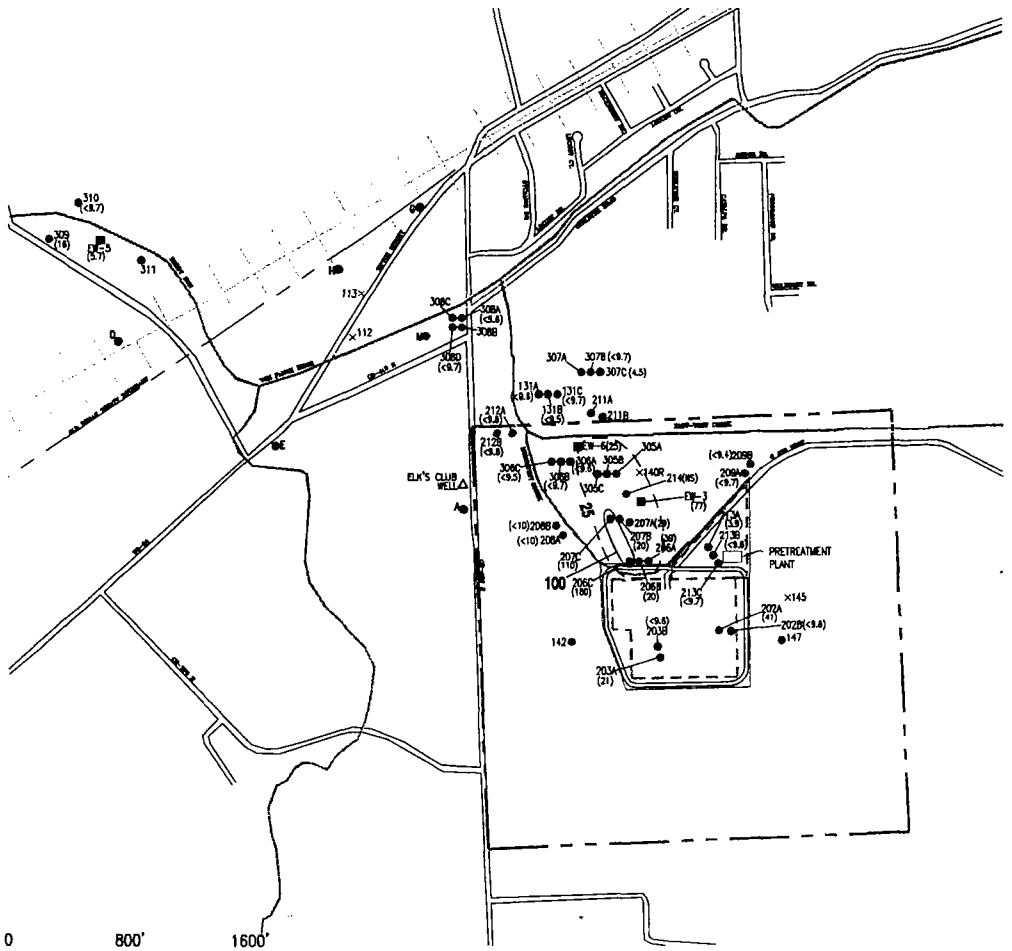
www.arcadis-us.com

PROJECT TITLE
GROUNDWATER REMEDIATION TECHNICAL ASSESSMENT REPORT
SEYMOUR SITE, SEYMOUR, INDIANA

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
S. FELDMAN	M. WILDENBURG		M. KENDL
SHEET TITLE	TASK/PHASE NUMBER		DRAWN BY
CVOC IMPACTS IN THE SHALLOW AQUIFER IN MAY 2005 RELATIVE TO AREAS WHERE INSTITUTIONAL CONTROLS HAVE BEEN IMPLEMENTED	30010		A. SANCHEZ
	PROJECT NUMBER		DRAWING NUMBER
	NY000713.2006		2



LEGEND:

SITE BOUNDARY

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SEYMOUR ACCESS ROAD

SURFACE WATER

RAILROAD TRACKS

207B (20) EXISTING SHALLOW AQUIFER MONITORING WELL AND 1,4-DIOXANE CONCENTRATION IN ug/L

145 ABANDONED WELL

EW-3 EXISTING SHALLOW AQUIFER EXTRACTION WELL AND 1,4-DIOXANE CONCENTRATION IN ug/L

A SHALLOW AQUIFER PIEZOMETER (SHOWN FOR REFERENCE ONLY)

(ug/L) MICROGRAMS PER LITER

-100 LINE OF EQUAL CONCENTRATION OF 1,4-DIOXANE IN ug/L (DASHED WHERE INFERRED)

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD
0	01-08-07	GW REMEDIATION TECHNICAL ASSESSMENT REPORT	

KEYPLAN

SEAL

ARCADIS
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Melville, NY 11747
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PROJECT TITLE

GROUNDWATER REMEDIATION TECHNICAL ASSESSMENT REPORT

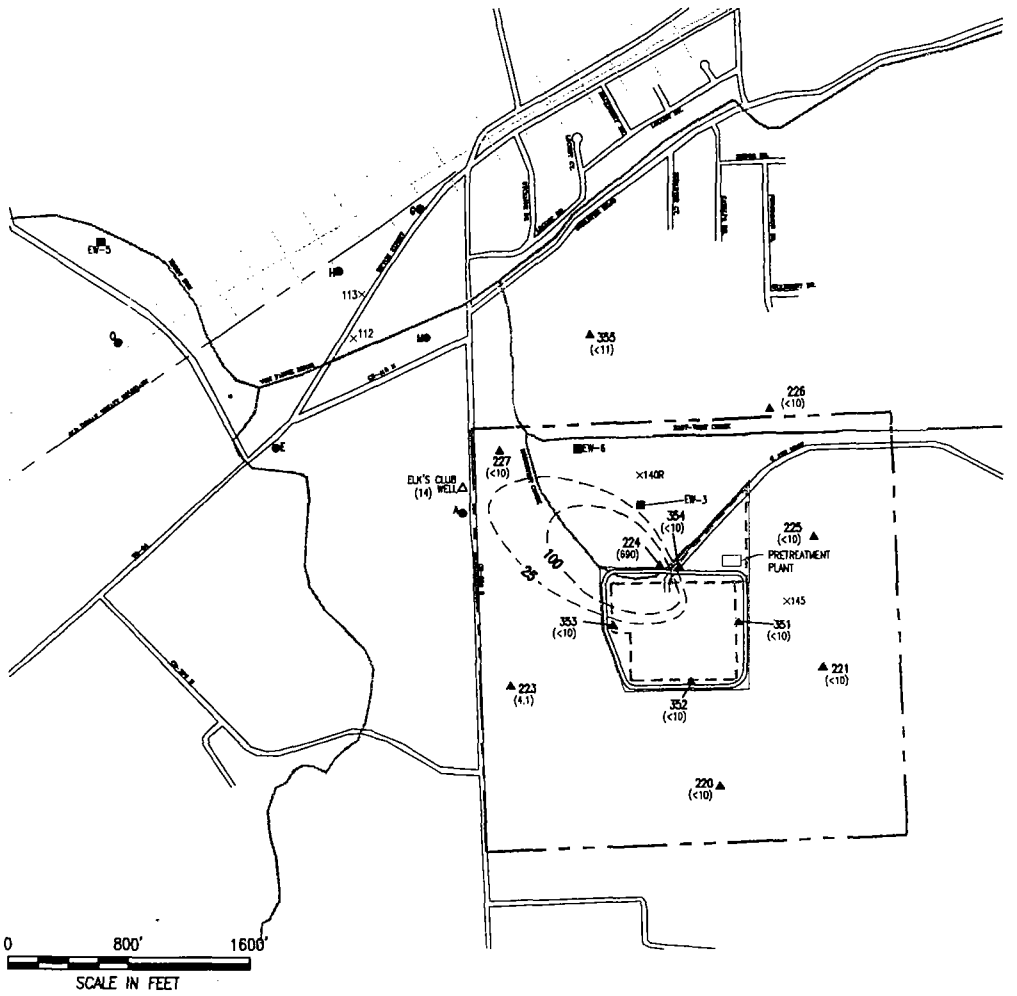
SEYMOUR SITE, SEYMOUR, INDIANA

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
S. FELDMAN	N. VALKENBURG		M. BENDL

SHEET TITLE

1,4-DIOXANE IMPACTS IN THE SHALLOW AQUIFER IN MAY 2005 RELATIVE TO AREAS WHERE INSTITUTIONAL CONTROLS HAVE BEEN IMPLEMENTED

TASK/PHASE NUMBER	DRAWN BY
50010	A. SANCHEZ
PROJECT NUMBER	DRAWING NUMBER
NY000713.2006	3



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SEYMOUR ACCESS ROAD

SURFACE WATER

RAILROAD TRACKS

224 (690) ▲ EXISTING DEEP AQUIFER MONITORING WELL AND 1,4-DIOXANE CONCENTRATION IN ug/L

145 × ABANDONED WELL

EW-3 ■ EXISTING SHALLOW AQUIFER EXTRACTION WELL (SHOWN FOR REFERENCE ONLY)

A ◎ SHALLOW AQUIFER PIEZOMETER (SHOWN FOR REFERENCE ONLY)

(ug/L) MICROGRAMS PER LITER

-100 —— LINE OF EQUAL CONCENTRATION OF 1,4-DIOXANE IN ug/L (DASHED WHERE INFERRED)

NO.	ISSUED DATE	REVISION DESCRIPTION	BY/CKD
0	01-08-07	GW REMEDIATION TECHNICAL ASSESSMENT REPORT	

KEYPLAN

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ARCADIS
Two Huntington Quadrangle
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PROJECT TITLE
GROUNDWATER REMEDIATION TECHNICAL ASSESSMENT REPORT
SEYMOUR SITE, SEYMOUR, INDIANA

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
S. FELDMAN	N. VALKENBURG		M. RENDL

SHEET TITLE
1,4-DIOXANE IMPACTS IN THE DEEP AQUIFER IN SEPTEMBER 2006 RELATIVE TO AREAS WHERE INSTITUTIONAL CONTROLS HAVE BEEN IMPLEMENTED

TASK/PHASE NUMBER	DRAWN BY
50010	A. SANCHEZ
PROJECT NUMBER	DRAWING NUMBER
NY000713.2006	4

Attachment 1

List of Seymour Site Documents Reviewed for Five-Year Review Report

- Explanation of Significant Differences, December 2002
- Second Five Year Review Report, March 2002
- First Five year Review Report, March, 1997
- RD/RA Consent Decree, December 1988
- Second Record of Decision, September 1987
- Interim Record of Decision, September 1986
- Seymour Site file and operations & maintenance documents
- Institutional Controls Analysis, January 8, 2007

U.S. Environmental Protection Agency

Begins a Five-Year Review of the

Seymour Superfund Site

Seymour, Indiana

EPA and Indiana Department of Environmental Management are conducting a review of the cleanup at the Seymour Superfund site in Seymour, Ind. The Superfund law requires a review at least every five years at sites where cleanup action has been started and hazardous substances remain managed at the location. These reviews are done to ensure the cleanup continues to protect human health and the environment. This review will evaluate the quality and overall effectiveness of the cleanup actions, including measures taken to clean up contaminated soil and ground water. EPA also hopes to identify actions that can be taken on formerly contaminated areas that will facilitate reuse and redevelopment. This review is scheduled to be completed by March 29, and the next five-year review will be in 2012.

Public comment is highly encouraged. Written comments should be postmarked no later than January 26.

Site information can be found at:

Jackson County Public Library
2nd and Walnut Streets
Seymour, Indiana

Written or oral comments should be addressed to Janet Pope. Additional site information can be requested from the team members listed below.

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